WEST Search History

DATE: Thursday, July 10, 2003

Set Name	Query	Hit Count	
side by side			result set
DB=USPT,JP	PAB,EPAB,DWPI,TDBD; PLUR=YES; OP=OR		
L3	L1 and ((424/450)!.CCLS.)	0	L3
L2	epothilone same liposome\$	14	L2
L1	epothilone	331	L1

END OF SEARCH HISTORY

WEST

Generate Collection Print

L2: Entry 6 of 14

File: USPT

Dec 17, 2002

US-PAT-NO: 6495579

DOCUMENT-IDENTIFIER: US 6495579 B1

TITLE: Method for treating multiple sclerosis

DATE-ISSUED: December 17, 2002

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Hunter; William L. Vancouver CA

ASSIGNEE-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY TYPE CODE

Angiotech Pharmaceuticals, Inc. Vancouver CA 03

APPL-NO: 09/ 088546 [PALM]
DATE FILED: June 1, 1998

PARENT-CASE:

CROSS REFERENCE TO RELATED APPLICATIONS This application is a Continuation in part of pending U.S. application Ser. No. 08/980,549, filed Dec. 1, 1997, which claims the benefit of Provisional Application No. 60/032,215, filed Dec. 2, 1996, and Provisional Application No. 60/063,087, filed Oct. 24, 1997, which applications are incorporated by reference in their entirety.

INT-CL: [07] A61 K 31/425

US-CL-ISSUED: 514/365 US-CL-CURRENT: 514/365

FIELD-OF-SEARCH: 514/43, 514/365

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

Sea	rch Selected	Search ALL

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
4391797	July 1983	Folkman et al.	424/19
4753965	June 1988	Stemerick et al.	514/647
4863968	September 1989	Edwards et al.	514/646
4904697	February 1990	Sunkara et al.	514/629
5092885	March 1992	Yamada et al.	623/11
5330756	July 1994	Steuart et al.	424/405

5411947	May 1995	Hostetler et al.	514/43
5443458	August 1995	Eury	604/89.1
5466455	November 1995	Huffstutler, Jr. et al.	424/401
5476954	December 1995	Bourzat et al.	549/510
5484809	January 1996	Hostetler et al.	514/449
5532388	July 1996	Bouchard et al.	549/510
5541232	July 1996	Howell et al.	514/731
5550261	August 1996	Bouchard et al.	549/510
5565439	October 1996	Piazza et al.	514/110
5565478	October 1996	Kohn et al.	514/359
5567417	October 1996	Sasisekharan et al.	424/94.5
5571917	November 1996	Bouchard et al.	544/369
5573781	November 1996	Brown et al.	424/484
<u>5576450</u>	November 1996	Bouchard et al.	549/510
5580997	December 1996	Bouchard et al.	549/510
<u>5580998</u>	December 1996	Bouchard et al.	549/510
5587459	December 1996	Uckun	530/391.1
5587493	December 1996	Bouchard et al.	549/510
5599942	February 1997	Bouchard et al.	548/215
5606083	February 1997	Bouchard et al.	549/510
5616608	April 1997	Kinsella et al.	514/449
5620971	April 1997	Armistead et al.	514/212
5626862	May 1997	Brem et al.	424/426
5627207	May 1997	Hupe et al.	514/468
<u>5635531</u>	June 1997	Chen	514/471
5651986	July 1997	Brem et al.	424/484
5654337	August 1997	Roentsch et al.	514/570
5654449	August 1997	Bouchard et al.	549/510
5667764	September 1997	Kopia et al.	424/1.45
5716981	February 1998	Hunter et al.	514/449
<u>5733925</u>	March 1998	Kunz et al.	514/449
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5873904	February 1999	Ragheb et al.	623/1
5886026	March 1999	Hunter et al.	514/449
5977163	November 1999	Li et al.	514/449
5981568	November 1999	Kunz et al.	514/411
5994341	November 1999	Hunter et al.	514/210
6040306	March 2000	Batts et al.	514/236.8

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FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
038 567	October 1981	EP	03-01
262 681	April 1988	EP	
274 846	July 1988	EP	
288 794	November 1988	EP	
294 905	December 1988	EP	
		EP	
470 246	February 1992	EP	
470 569	February 1992		
543 653	May 1993	EP	
551 182	July 1993	EP	
567 816	November 1993	EP	
568 310	November 1993	EP	
669 916	September 1995	EP	
706 376	April 1996	EP	
717 041	June 1996	EP	
747 385	December 1996	EP	
61-063613	April 1986	JP	
WO 90/01969	March 1990	WO	
WO 91/07154	May 1991	WO	
WO 91/10424	July 1991 .	WO	
WO 91/11193	August 1991	WO	
WO 91/12779	September 1991	WO	
WO 92/00747	January 1992	WO	
WO 92/12717	August 1992	WO	
WO 92/15286	September 1992	WO	
WO 93/06792	April 1993	WO	
WO 93/11120	June 1993	WO	
WO 94/01425	January 1994	WO	
WO 94/07880	April 1994	WO	
WO 94/12158	June 1994	WO	
WO 94/12484	June 1994	WO	
WO 94/13654	June 1994	WO	
WO 94/21308	September 1994	WO	
WO 95/03036	February 1995	WO	
WO 95/03795	February 1995	WO	
WO 95/13270	May 1995	WO	
WO 95/13271	May 1995	WO	
WO 95/19769	July 1995	WO	
WO 95/21868	August 1995	WO	
WO 95/33736	December 1995	WO	
WO 95/35095	December 1995	WO	
WO 96/03984	February 1996	WO	
WO 96/10912	April 1996	WO	
9613249	May 1996	WO	
WO 96/13494	May 1996	WO	
WO 96/30355	October 1996	WO	
WO 96/30356	October 1996	WO	
WO 96/31493	October 1996	WO	
•		.	

WO 97/20842	June 1997	WO
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Demyelinating Model, " Annals of Neurology, 46(3), Abstr. No. 92 at p. 469 (Sep.,
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by Paclitaxel, ": Annals of Neurology, 46(3), Abstr. No. 94 at p. 470 (Sep., 1999).
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Secondary Progressive Multiple Sclerosis, "Annals of Neurology, 46(3), Abstr. No. 95
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only pp. 1-22 supplied.
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ART-UNIT: 1623

PRIMARY-EXAMINER: Geist; Gary

ASSISTANT-EXAMINER: Crane; L. E.

ATTY-AGENT-FIRM: Seed Intellectual Property Law Group PLLC

ABSTRACT:

Methods and compositions for treating or preventing inflammatory diseases such as

psoriasis or multiple sclerosis are provided, comprising the step of delivering to the site of inflammation an anti-microtubule agent, or analogue or derivative thereof.

29 Claims, 167 Drawing figures

Generate Collection

Print

Search Results - Record(s) 1 through 14 of 14 returned.

☐ 1. Document ID: US 6589968 B2

L2: Entry 1 of 14

File: USPT

Jul 8, 2003

US-PAT-NO: 6589968

DOCUMENT-IDENTIFIER: US 6589968 B2

TITLE: Epothilone compounds and methods for making and using the same

DATE-ISSUED: July 8, 2003

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Pacifica CA Arslanian; Robert L. Carney; John R. San Bruno CA Metcalf; Brian Moraga CA

US-CL-CURRENT: 514/365; 548/204

Full Title Citation Front Review Classification Date Reference Sequences Attachments Draw, Desc Image

2. Document ID: US 6581606 B2

L2: Entry 2 of 14

File: USPT

Jun 24, 2003

US-PAT-NO: 6581606

DOCUMENT-IDENTIFIER: US 6581606 B2

TITLE: Method, apparatus and system for use in treating patient with a drug having an antineoplastic effect to optimize therapy and prevent an adverse drug response

DATE-ISSUED: June 24, 2003

INVENTOR-INFORMATION:

NAME ZIP CODE CITY STATE COUNTRY

Kutzko; John D. Nokomis FLMcMichael; John P. Wexford PA Singer; Michaeal G. Harrisville ΜI

US-CL-CURRENT: <u>128/898</u>; <u>600/300</u>

Full Title Citation Front Review Classification Date Reference Sequences Attachments Claims Draw, Desc | Image

☐ 3. Document ID: US 6569179 B2

File: USPT L2: Entry 3 of 14 May 27, 2003

US-PAT-NO: 6569179

DOCUMENT-IDENTIFIER: US 6569179 B2

TITLE: Bioactive three loop coil

DATE-ISSUED: May 27, 2003

INVENTOR-INFORMATION:

STATE ZIP CODE COUNTRY NAME CITY

Teoh; Clifford Los Altos CA San Jose Ho; Hanh CA Quan, Jr.; Kenneth W. San Jose CA

US-CL-CURRENT: 606/191; 606/194



4. Document ID: US 6554851 B1

L2: Entry 4 of 14

File: USPT Apr 29, 2003

US-PAT-NO: 6554851

DOCUMENT-IDENTIFIER: US 6554851 B1

TITLE: Methods of sealing an injection site

DATE-ISSUED: April 29, 2003

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Wellesley Palasis; Maria MA Gordon; Lucas S. Redmond WA

US-CL-CURRENT: 606/213



5. Document ID: US 6515016 B2

File: USPT L2: Entry 5 of 14 Feb 4, 2003

US-PAT-NO: 6515016

DOCUMENT-IDENTIFIER: US 6515016 B2

TITLE: Composition and methods of paclitaxel for treating psoriasis

DATE-ISSUED: February 4, 2003

INVENTOR-INFORMATION:

NAME

CITY

STATE ZIP CODE

COUNTRY

Hunter; William L.

Vancouver

CA

US-CL-CURRENT: <u>514/449</u>

Full Title Citation Front Review Classification Date Reference Sequences Attachments

Draws Descriptings

KWIC

☐ 6. Document ID: US 6495579 B1

L2: Entry 6 of 14

File: USPT

Dec 17, 2002

US-PAT-NO: 6495579

DOCUMENT-IDENTIFIER: US 6495579 B1

TITLE: Method for treating multiple sclerosis

DATE-ISSUED: December 17, 2002

INVENTOR-INFORMATION:

NAME

CITY

STATE

ZIP CODE

COUNTRY

Hunter; William L.

Vancouver

CA

US-CL-CURRENT: <u>514/365</u>

Full Title Citation Front Review Classification Date Reference Sequences Attachments

Draws Descriptings

KMIC

7. Document ID: US 6489314 B1

L2: Entry 7 of 14

File: USPT

Dec 3, 2002

US-PAT-NO: 6489314

DOCUMENT-IDENTIFIER: US 6489314 B1

TITLE: Epothilone derivatives and methods for making and using the same

DATE-ISSUED: December 3, 2002

INVENTOR-INFORMATION:

NAME

CITY

STATE ZIP CODE

COUNTRY

Ashley; Gary Metcalf; Brian

Alameda Moraga CA CA

US-CL-CURRENT: 514/183; 540/451, 540/455, 540/461, 540/462, 540/463

Full Title Citation Front Review Classification Date Reference Sequences Attachments

Draw Desc Image

KWIC

□ 8. Document ID: US 6369039 B1

Record List Display

L2: Entry 8 of 14

File: USPT

Apr 9, 2002

US-PAT-NO: 6369039

DOCUMENT-IDENTIFIER: US 6369039 B1

** See image for Certificate of Correction **

TITLE: High efficiency local drug delivery

DATE-ISSUED: April 9, 2002

INVENTOR - INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Palasis; Maria Wellesley MA Walsh; Kenneth Carlisle MA

US-CL-CURRENT: 514/44; 424/93.2, 514/2, 604/509

Full Title Citation Front Review Classification Date Reference Sequences Attachments

Draw, Desc Image

9. Document ID: US 6368658 B1

L2: Entry 9 of 14 File: USPT Apr 9, 2002

US-PAT-NO: 6368658

DOCUMENT-IDENTIFIER: US 6368658 B1

TITLE: Coating medical devices using air suspension

DATE-ISSUED: April 9, 2002

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Schwarz; Marlene Newton MA
Miller; Kathleen Shrewsbury MA
Kamath; Kalpana Natick MA

 $\begin{array}{l} \text{US-CL-CURRENT: } \underline{427/2.15}; \ \underline{427/2.24}, \ \underline{427/2.25}, \ \underline{427/2.28}, \ \underline{427/2.3}, \ \underline{427/248.1}, \ \underline{427/255.5}, \\ \underline{427/255.6}, \ \underline{427/457}, \ \underline{427/458}, \ \underline{427/459}, \ \underline{427/466}, \ \underline{427/488}, \ \underline{427/496}, \ \underline{427/523}, \ \underline{427/581}, \\ \underline{427/582}, \ \underline{427/585}, \ \underline{427/595}, \ \underline{427/596} \end{array}$

Full Title Citation Front Review Classification Date Reference Sequences Attachments KMC

Draw, Desc Image

☐ 10. Document ID: US 6344027 B1

L2: Entry 10 of 14 File: USPT Feb 5, 2002

US-PAT-NO: 6344027

DOCUMENT-IDENTIFIER: US 6344027 B1

TITLE: Needle-less injection apparatus and method

DATE-ISSUED: February 5, 2002

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Goll; J. Paul Woodinville WA

US-CL-CURRENT: 604/68; 604/69

Full Title Citation Front Review Classification Date Reference Sequences Attachments

Draw Desc Image

☐ 11. Document ID: US 6319230 B1

L2: Entry 11 of 14 File: USPT Nov 20, 2001

US-PAT-NO: 6319230

DOCUMENT-IDENTIFIER: US 6319230 B1

TITLE: Lateral needle injection apparatus and method

DATE-ISSUED: November 20, 2001

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Palasis; Maria Wellesley MA Rosenthal; Arthur Boston MA

US-CL-CURRENT: 604/164.01

Full Title Citation Front Review Classification Date Reference Sequences Attachments KMIC |
Draw Desc Image

☐ 12. Document ID: US 6280411 B1

L2: Entry 12 of 14 File: USPT Aug 28, 2001

US-PAT-NO: 6280411

DOCUMENT-IDENTIFIER: US 6280411 B1

TITLE: Localized delivery of drug agents

DATE-ISSUED: August 28, 2001

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Lennox; Charles D. Hudsom NH

US-CL-CURRENT: 604/103.05; 604/103.01, 604/103.02, 604/103.11, 604/103.12, 604/96.01,

 $\underline{606}/\underline{192}$, $\underline{606}/\underline{194}$, $\underline{623}/\underline{1.39}$, $\underline{623}/\underline{1.42}$

Full Title Citation Front Review Classification Date Reference Sequences Attachments

NMC

Draw, Desc. Image

13. Document ID: US 6231590 B1

L2: Entry 13 of 14

File: USPT

May 15, 2001

US-PAT-NO: 6231590

DOCUMENT-IDENTIFIER: US 6231590 B1

TITLE: Bioactive coating for vaso-occlusive devices

DATE-ISSUED: May 15, 2001

INVENTOR-INFORMATION:

NAME . CITY STATE ZIP CODE COUNTRY

Slaikeu; Paul C. Hayward CA
Eder; Joseph C. Los Altos CA
Barry; James J. Marlborough MA
Wallace; Michael P. Pleasanton CA

Abrams; Robert M. Sunnyvale CA

US-CL-CURRENT: 606/200

Full Title Citation Front Review Classification Date Reference Sequences Attachments

Draw Desc Image

☐ 14. Document ID: WO 200110412 A1 EP 1198225 A1 AU 200062795 A

L2: Entry 14 of 14

. File: DWPI

Feb 15, 2001

DERWENT-ACC-NO: 2001-211023

DERWENT-WEEK: 200235

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TITLE: New liposomal compositions comprising an epothilone, useful for the treatment

and prevention of malignant proliferative disorders, particularly tumors

INVENTOR: ALTMANN, K; SONNTAG, J; WARTMANN, M

PRIORITY-DATA: 1999GB-0018429 (August 4, 1999)

PATENT-FAMILY:

PUB-NO PUB-DATE LANGUAGE **PAGES** MAIN-IPC E 016 WO 200110412 A1 February 15, 2001 A61K009/127 EP 1198225 A1 April 24, 2002 Ε 000 A61K009/127 March 5, 2001 000 AU 200062795 A A61K009/127

INT-CL (IPC): $\underline{A61} \times \underline{9/127}$; $\underline{A61} \times \underline{31/425}$

Full Title Citation Front Review Classification Date Reference Sequences Attachments

Draw Desc Image

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Terms	Documents
epothilone same liposome\$	14

Display Format: - Change Format

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WEST Search History

DATE: Thursday, July 10, 2003

Set Name side by side	Query	Hit Count	Set Name result set
DB = USPT	C,JPAB,EPAB,DWPI,TDBD; PLUR=YES; OP=OR		
L7	liposome\$ adj5 (taxane or paclitaxel)	37	L7
L6	L5 and \$microtubule	1	L6
L5	camptothecin\$ adj5 liposome\$	20	L5
L4	\$microtubule same liposome\$	8	L4
L3	L1 and ((424/450)!.CCLS.)	0	L3
L2	epothilone same liposome\$	14	L2
L1	epothilone	331	L1

END OF SEARCH HISTORY

WEST

Generate Collection

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Search Results - Record(s) 1 through 20 of 20 returned.

☐ 1. Document ID: US 6548071 B1

L5: Entry 1 of 20

File: USPT

Apr 15, 2003

US-PAT-NO: 6548071

DOCUMENT-IDENTIFIER: US 6548071 B1

TITLE: Lyophilizate of lipid complex of water insoluble camptothecins

DATE-ISSUED: April 15, 2003

INVENTOR-INFORMATION:

NAME

CITY

STATE

ZIP CODE

COUNTRY

Cherian; Mathew

Albuquerque

NM

US-CL-CURRENT: 424/400; 424/484, 514/283

Full Title Citation Front Review Classification Date Reference Sequences Attachments

Draw Desc Image

KWIC

☐ 2. Document ID: US 6534080 B2

L5: Entry 2 of 20

File: USPT

Mar 18, 2003

US-PAT-NO: 6534080

DOCUMENT-IDENTIFIER: US 6534080 B2

TITLE: Method for administering camptothecins via injection of pharmaceutical

composition comprising coated particles of a camptothecin

DATE-ISSUED: March 18, 2003

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Sands; Howard Wilmington DE

Mishra; Awadhesh Quebec CA

US-CL-CURRENT: 424/423; 424/450

Full Title Citation Front Review Classification Date Reference Sequences Attachments

Draw, Descriptings

☐ 3. Document ID: US 6509027 B2

L5: Entry 3 of 20 File: USPT Jan 21, 2003

US-PAT-NO: 6509027

DOCUMENT-IDENTIFIER: US 6509027 B2

TITLE: Injectable pharmaceutical composition comprising coated particles of

camptothecin

DATE-ISSUED: January 21, 2003

INVENTOR-INFORMATION:

NAME

CITY Wilmington STATE ZIP CODE

COUNTRY

Sands; Howard Mishra; Awadhesh

Quebec

CA

US-CL-CURRENT: 424/423; 424/450



☐ 4. Document ID: US 6497896 B2

L5: Entry 4 of 20

File: USPT

DE

Dec 24, 2002

US-PAT-NO: 6497896

DOCUMENT-IDENTIFIER: US 6497896 B2

TITLE: Method for administering camptothecins via injection of a pharmaceutical

composition comprising microdroplets containing a camptothecin

DATE-ISSUED: December 24, 2002

INVENTOR-INFORMATION:

NAME

CITY

STATE

ZIP CODE

COUNTRY

Sands; Howard

Wilmington

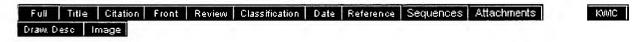
DE

Mishra; Awadhesh

Verdun

CA

US-CL-CURRENT: 424/423; 424/450



☐ 5. Document ID: US 6465008 B1

L5: Entry 5 of 20

File: USPT

Oct 15, 2002

US-PAT-NO: 6465008

DOCUMENT-IDENTIFIER: US 6465008 B1

TITLE: Liposome-entrapped topoisomerase inhibitors

DATE-ISSUED: October 15, 2002

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Slater; James L. Palo Alto CA
Colbern; Gail T. Pacifica CA
Working; Peter K. Burlingame CA

US-CL-CURRENT: 424/450

Full Title Citation Front Review Classification Date Reference Sequences Attachments KWIC Draw, Description

☐ 6. Document ID: US 6440393 B1

L5: Entry 6 of 20 File: USPT Aug 27, 2002

US-PAT-NO: 6440393

DOCUMENT-IDENTIFIER: US 6440393 B1

TITLE: Carbon dioxide enhancement of inhalation therapy

DATE-ISSUED: August 27, 2002

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Waldrep; J. Clifford The Woodlands TX
Knight; J. Vernon Houston TX
Koshkina; Nadezhda Houston TX

US-CL-CURRENT: 424/45; 424/1.13, 424/1.21, 424/450, 424/458

Full Title Citation Front Review Classification Date Reference Sequences Attachments KMC Draw, Description

7. Document ID: US 6407239 B1

L5: Entry 7 of 20 File: USPT Jun 18, 2002

US-PAT-NO: 6407239

DOCUMENT-IDENTIFIER: US 6407239 B1

TITLE: Aromatic esters of camptothecins and methods to treat cancers

DATE-ISSUED: June 18, 2002

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Cao; Zhisong Friendswood TX Giovanella; Beppino C. Houston TX

US-CL-CURRENT: 546/48; 546/51

Full Title Citation Front Review Classification Date Reference Sequences Attachments

Draw Desc Image

☐ 8. Document ID: US 6355268 B1

L5: Entry 8 of 20

File: USPT

Mar 12, 2002

US-PAT-NO: 6355268

DOCUMENT-IDENTIFIER: US 6355268 B1

** See image for Certificate of Correction **

TITLE: Liposome-entrapped topoisomerase inhibitors

DATE-ISSUED: March 12, 2002

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Slater; James L. Colbern; Gail T. Palo Alto CA

Pacifica CA Burlingame CA

US-CL-CURRENT: 424/450

Working; Peter K.

Full Title Citation Front Review Classification Date Reference Sequences Attachments

KWIC

☐ 9. Document ID: US 6352996 B1

L5: Entry 9 of 20

File: USPT

Mar 5, 2002

US-PAT-NO: 6352996

DOCUMENT-IDENTIFIER: US 6352996 B1

** See image for Certificate of Correction **

TITLE: Liposomal prodrugs comprising derivatives of camptothecin and methods of treating cancer using these prodrugs

DATE-ISSUED: March 5, 2002

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Cao; Zhisong Friendswood TX Giovanella; Beppino C. Houston TX

US-CL-CURRENT: <u>514/283</u>; <u>546/48</u>

Full Title Citation Front Review Classification Date Reference Sequences Attachments

Draw, Desc Image

☐ 10. Document ID: US 6346233 B1

L5: Entry 10 of 20

File: USPT

Feb 12, 2002

US-PAT-NO: 6346233

DOCUMENT-IDENTIFIER: US 6346233 B1

** See image for Certificate of Correction **

TITLE: Composition for treating cancer via liposomal aerosol formulation containing

taxol

DATE-ISSUED: February 12, 2002

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Knight; J. Vernon Houston TX
Waldrep; J Clifford The Woodlands TX
Koshkina; Nadezhda Houston TX
Gilbert; Brian Houston TX

US-CL-CURRENT: 424/45; 424/450, 424/46



☐ 11. Document ID: US RE37410 E

L5: Entry 11 of 20

File: USPT

Oct 16, 2001

US-PAT-NO: RE37410

DOCUMENT-IDENTIFIER: US RE37410 E

TITLE: Controlled local delivery of chemotherapeutic agents for treating solid tumors

DATE-ISSUED: October 16, 2001

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Brem; Henny Lutherville MD Langer; Robert S. Newton MA

Domb; Abraham J. Efrat IL

US-CL-CURRENT: 424/484; 424/401, 424/426, 424/486, 424/499

☐ 12. Document ID: US 6291676 B1

L5: Entry 12 of 20

File: USPT

Sep 18, 2001

US-PAT-NO: 6291676

DOCUMENT-IDENTIFIER: US 6291676 B1

** See image for Certificate of Correction **

TITLE: Water-soluble derivatives of camptothecin/homocamptothecin

DATE-ISSUED: September 18, 2001

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Burke; Thomas G. Lexington KY

Demir; Ayhan S. Neunkirchen TR
Tanyeli; Cihangir Ankara TR

Chavan; Ashok J. Lexington KY Wang; Tie-Lin San Diego CA Pommier; Yves Bethesda MD

US-CL-CURRENT: 546/48



☐ 13. Document ID: US 6096336 A

L5: Entry 13 of 20

File: USPT

Aug 1, 2000

US-PAT-NO: 6096336

DOCUMENT-IDENTIFIER: US 6096336 A

** See image for Certificate of Correction **

TITLE: Liposomal prodrugs comprising derivatives of camptothecin and methods of treating cancer using these prodrugs

DATE-ISSUED: August 1, 2000

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Cao; Zhisong Friendswood TX Giovanella; Beppino C. Houston TX

US-CL-CURRENT: 424/450; 514/283



☐ 14. Document ID: US 6090407 A

L5: Entry 14 of 20

File: USPT

Jul 18, 2000

US-PAT-NO: 6090407

DOCUMENT-IDENTIFIER: US 6090407 A

** See image for Certificate of Correction **

TITLE: Small particle liposome aerosols for delivery of anti-cancer drugs

DATE-ISSUED: July 18, 2000

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Knight; J. Vernon Houston TX
Gilbert; Brian Houston TX
Waldrep; J. Clifford The Woodlands TX
Koshkina; Nadezhda Houston TX

US-CL-CURRENT: 424/450; 424/45, 514/938



☐ 15. Document ID: US 5834012 A

L5: Entry 15 of 20

File: USPT

Nov 10, 1998

US-PAT-NO: 5834012

DOCUMENT-IDENTIFIER: US 5834012 A

** See image for Certificate of Correction **

TITLE: Lipid complexed topoisomerase I inhibitors

DATE-ISSUED: November 10, 1998

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Perez-Soler; Roman Houston TX 77005 Sugarman; Steven M. Stony Brook NY 11790 Poirot; Kenneth R. Houston TX 77054

US-CL-CURRENT: 424/450

Full Title Citation Front Review Classification Date Reference Sequences Attachments

Draw Desc Image

☐ 16. Document ID: US 5776486 A

L5: Entry 16 of 20 File: USPT Jul 7, 1998

US-PAT-NO: 5776486

DOCUMENT-IDENTIFIER: US 5776486 A

TITLE: Methods and apparatus for making liposomes containing hydrophobic drugs

DATE-ISSUED: July 7, 1998

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Castor; Trevor P. Arlington MA
Chu; Ling Chelmsford MA

US-CL-CURRENT: 424/450; 264/4.1, 264/4.3, 264/4.6

Full Title Citation Front Review Classification Date Reference Sequences Attachments

Draw Desc Image

☐ 17. Document ID: US 5736156 A

L5: Entry 17 of 20

File: USPT

Apr 7, 1998

US-PAT-NO: 5736156

DOCUMENT-IDENTIFIER: US 5736156 A

TITLE: Liposomal anf micellular stabilization of camptothecin drugs

DATE-ISSUED: April 7, 1998

INVENTOR - INFORMATION:

NAME

CITY

STATE

ZIP CODE

COUNTRY

Burke; Thomas G.

Columbus

OH

US-CL-CURRENT: 424/450; 514/279, 514/283

Full Title Citation Front Review Classification Date Reference Sequences Attachments

Drawn Desc Image

☐ 18. Document ID: US 5552156 A

L5: Entry 18 of 20

File: USPT

Sep 3, 1996

US-PAT-NO: 5552156

DOCUMENT-IDENTIFIER: US 5552156 A

TITLE: Liposomal and micellular stabilization of camptothecin drugs

DATE-ISSUED: September 3, 1996

INVENTOR-INFORMATION:

NAME

CITY

STATE

ZIP CODE

COUNTRY

Burke; Thomas G.

Columbus

OH

US-CL-CURRENT: 424/450

Full Title Citation Front Review Classification Date Reference Sequences Attachments

Draws Description

KWIC

☐ 19. Document ID: WO 2094269 A1

L5: Entry 19 of 20

File: EPAB

Nov 28, 2002

PUB-NO: WO002094269A1

DOCUMENT-IDENTIFIER: WO 2094269 A1

TITLE: LIPOSOMALLY ENCAPSULATED HYDROPHOBIC ACTIVE INGREDIENTS WITH A HIGH ACTIVE

INGREDIENT CONTENT > 50 % AND METHOD FOR THE PRODUCTION OF PHARMACEUTICAL

PREPARATIONS CONTAINING LIPOSOMALLY ENCAPSULATED HYDROPHOBIC ACTIVE INGREDIENTS

PUBN-DATE: November 28, 2002

INVENTOR-INFORMATION:

NAME COUNTRY

RESZKA, REGINA DE SCHERRER, PETER DE

INT-CL (IPC): $A61 \times 31/4745$; $A61 \times 9/127$ EUR-CL (EPC): $A61 \times 09/127$; $A61 \times 09/127$

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
Draw, D	esc I	mage							

KOMO

20. Document ID: EP 1121102 B1 WO 200023052 A1 AU 200011189 A NO 200101844 A EP 1121102 A1 BR 9914601 A KR 2001075639 A ZA 200103063 A CN 1323199 A US 6355268 B1 US 20020146450 A1 JP 2002527466 W US 6465008 B1

L5: Entry 20 of 20

File: DWPI

Apr 23, 2003

DERWENT-ACC-NO: 2000-350326

DERWENT-WEEK: 200329

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TITLE: Composition for treating a tumor comprises topoisomerase inhibitor entrapped in liposomes

-

INVENTOR: COLBERN, G T; SLATER, J L ; WORKING, P K

PRIORITY-DATA: 1998US-104671P (October 16, 1998), 1999US-0419189 (October 15, 1999), 2001US-0046326 (October 19, 2001)

PATENT-FAMILY:

PU	3-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
EP	1121102 B1	April 23, 2003	E	000	A61K009/127
WO	200023052 A1	April 27, 2000	E	050	A61K009/127
AU	200011189 A	May 8, 2000		000	
NO	200101844 A	April 10, 2001		000	A61K009/127
EP	1121102 A1	August 8, 2001	E	000	A61K009/127
BR	9914601 A	October 23, 2001		000	A61K009/127
KR	2001075639 A	August 9, 2001		000	A61K009/127
ZA	200103063 A	December 24, 2001		058	A61K000/00
CN	1323199 A	November 21, 2001		000	A61K009/127
US	6355268 B1	March 12, 2002		000	A61K009/127
US	20020146450 A1	October 10, 2002		000	A61K031/496
JP	2002527466 W	August 27, 2002		065	A61K009/127
US	6465008 B1	October 15, 2002		000	A61K009/127

INT-CL (IPC): A61 K 0/00; A61 K 9/127; A61 K 31/352; A61 K 31/435; A61 K 31/4375; A61 K 31/4745; A61 K 31/496; A61 K 45/00; A61 K 47/28; A61 K 47/34; A61 K 47/36; A61 K 47/36;

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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Terms	Documents
camptothecin\$ adj5 liposome\$	20

Display Format: - Change Format

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End of Result Set

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L6: Entry 1 of 1

File: USPT

Oct 16, 2001

DOCUMENT-IDENTIFIER: US RE37410 E

TITLE: Controlled local delivery of chemotherapeutic agents for treating solid tumors

Other Reference Publication (60):

Rowinsky, et al., "Microtubule Chanes and Cytotoxicity in Leukemic Cell Lines Treated with Taxol." Cancer Res. 48:4093-4100 (1988).

Other Reference Publication (62):

Rowinsky, et al., "Taxol: A Novel Investigational Antimicrotubule Agent," J. Natl. Cancer Inst. 82:1247-1259 (1990).

Other Reference Publication (87):

Zhang, et al., "A method for determining the encapsulation ratio of <u>camptothecin in polyphase liposome</u> and studies on its leakage property," Yao Hsueh Hsueh Pao 22(12):918-22 (1987).

WEST Search History

DATE: Thursday, July 10, 2003

Set Name side by side	Query	Hit Count	Set Name result set
DB=USPT,J	PAB,EPAB,DWPI,TDBD; PLUR=YES; OP=OR		
L6	L5 and \$microtubule	1	L6
L5	camptothecin\$ adj5 liposome\$	20	L5
L4	\$microtubule same liposome\$	8	L4
L3	L1 and ((424/450)!.CCLS.)	0	L3
L2	epothilone same liposome\$	14	L2
L1	epothilone	331	L1

END OF SEARCH HISTORY

Generate Collection Print

L7: Entry 26 of 37 File: USPT Jul 7, 1998

DOCUMENT-IDENTIFIER: US 5776486 A

TITLE: Methods and apparatus for making liposomes containing hydrophobic drugs

Drawing Description Text (17):

FIG. 16 depicts the toxicity profile of cells to which <u>liposomes made in accordance</u> with the present invention but without paclitaxel were applied as a control study.

Drawing Description Text (19):

FIG. 18 depicts the toxicity profile of cells to which <u>liposomes made in accordance</u> with the present invention containing paclitaxel, were applied as a percent cell survival as a function of dosage level.

Drawing Description Text (20):

FIG. 19 depicts graphically, in bar graph form, a comparison of in vitro percent specific effect of 1.0 .mu.g/ml liposomes containing paclitaxel made in accordance with the present invention and cremophor formulated paclitaxel (CP) for three breast cancer cell lines.

Detailed Description Text (110):

Liposomes containing paclitaxel, paclitaxel and cephalomannine, or camptothecin were formed as described in Example 1. Such liposomes were made using a 0.5 mm nozzle at a pressure of 4,000 psig and a temperature 60.degree. C. Paclitaxel and cephalomannine, or camptothecin, in powdered form, were placed with phospholipids into a phospholipid chamber 69 of the apparatus depicted in FIG. 1. The apparatus was operated to dissolve the phospholipid and drug in SCOCONC fluid to form a drug mixture. This mixture is injected into an aqueous phase to form liposomes.

Detailed Description Text (112):

Liposomes containing paclitaxel, or paclitaxel and cephalomannine, or camptothecin were formed as described in Example 1. That is, phospholipid, drug, aqueous phase, and a SCoCoNC fluid are thoroughly mixed in an apparatus as described in FIG. 1. The apparatus is operated at a pressure of 4,000 psig and a temperature of 60.degree. C. This mixture is held in a first vessel and placed in fluid communication with a second vessel via a nozzle. Upon depressurization of the mixture, as the mixture moves from the first vessel to the second, or upon depressurization of the mixture upon entering the second vessel, liposomes containing drug are formed.

Detailed Description Text (124):

The liposomal samples from liposome formation processes featuring injection and decompression were centrifuged at 2,000 rpm for 30 minutes, to remove any unencapsulated solutes and large phospholipid crystals in the liposome suspension. An HPLC assay was performed to determine the paclitaxel and cephalomannine content of liposomes in the supernatant of the centrifuge tube. For comparative reasons, liposomes formed by sonication were also centrifuged and the suspended liposomes were assayed for paclitaxel and cephalomannine content. The results are presented in Table 20 below.

Detailed Description Text (125):

The data clearly demonstrates that <u>liposomes formed</u> by <u>injection or decompression</u> <u>encapsulate paclitaxel</u> and cephalomannine. The data also suggests that injection or decompression processes capture paclitaxel more effectively than those formed by the sonication method. In LIP-166 formed by sonication, it appears that a large amount of

unencapsulated paclitaxel was present in the solution, more than 45%, and that untrapped paclitaxel and cephalomannine precipitated out after centrifugation.

Detailed Description Text (126):

The incorporation of paclitaxel in liposomes was examined by utilizing Gel Exclusion Chromatography (GEC) to fractionate <u>liposomes in different sizes</u>, and to <u>determine</u> whether the <u>paclitaxel</u> moves with the liposomes. The eluant from the GEC column was analyzed, again, by HPLC. The particle size analysis including particle size distribution of eluted sample was also examined by the Coulter particle size analyzer.

Detailed Description Text (130):

FIGS. 11 and 12 show the analytical results of GEC fractionation of LIP-166 prepared by the sonication method (see Table 20). FIG. 11 depicts, in bar graph form, intensity and size of liposomes prepared by sonication. A large amount of liposomes eluted out of the GEC column from 20 to 40 ml, and solutions under these peaks were cloudy. Entrapped paclitaxel and cephalomannine were eluted with liposomes of around 180 nm from GEC column. These results are depicted in FIG. 12. These results are consistent with results obtained with LIP-154 which was prepared by the injection process. However, in LIP-166, the amount of paclitaxel and cephalomannine entrapped in the liposomes was much lower, about ten times, than those from the injection process. The majority of particles (86%) in LIP-166 formed by sonication are in the 38 nm range, and would not be expected to have a high paclitaxel content since small sized liposomes do not trap paclitaxel as effectively as larger liposomes.

Detailed Description Text (132):

A uniform size distribution of liposomes from the first stage of fractional decompression in both experiments was again obtained. However, paclitaxel concentration in this population of liposomes is relatively low. In our size exclusion chromatography study for LIP-154 (FIGS. 9 and 10), it was shown that paclitaxel eluted out mostly with liposomes in the 160 to 270 nm size range. This suggested that an optimal size of liposomes. This suggested that an optimal size of liposomes. This suggested that an optimal size of liposomes. This suggested that an optimal size of liposomes and cephalomannine may be in the range of 150-290 nm. In the second stage of decompression, the particles are distributed into two larger population sizes in both LIP-175 and LIP-176. This may be due to the rapid volume expansion of critical fluid below its critical pressure which is considerably larger than that in the first decompression stage. Liposomes formed in the high pressure circulation loop prior to the decompression go through a rapid disruption and fusion process, and vesiculate into larger liposomes.

Detailed Description Text (139):

Stability Comparison of Liposome Encapsulated Paclitaxel Using Injection or Decompression Processes and Sonication

Detailed Description Text (146):

Cytotoxicity Studies of Liposome Encapsulated Paclitaxel

<u>Detailed Description Text</u> (147):

A. Toxicity of Liposomes Encapsulating Paclitaxel Against Colon Cancer Cell Lines

Detailed Description Text (148):

An independent study on cytotoxicity of liposome encapsulated paclitaxel prepared by decompression processes was conducted. Samples of LIP-175 and LIP-176, prepared by the critical fluid decompression technique were tested against the HCT 116 human colon cancer cell line. A sample of LIP-171 which contained no paclitaxel or cephalomannine was also tested against the same cell line as a control.

Detailed Description Text (149):

In the cytotoxicity studies, a five order of magnitude dilution of the liposomal encapsulated paclitaxel was used. After seeding onto the plates for four hours, the cells were treated with liposome encapsulated paclitaxel and unencapsulated paclitaxel as a control in 0.5% DMSO buffer. The paclitaxel was left on the cells for three days after which time the plates were re-fed and thiazolyl blue was added. The reduction of the thiazolyl blue to a purple formazan product correlates in a linear way with the number of living cells in the well plates. Therefore by measuring the

absorbance of this reduction product, the percent of cell survival at a given dose of paclitaxel can be quantified.

Detailed Description Text (150):

The results of these studies were plotted with percent of cell survival as a function of paclitaxel concentration. Results for liposomes formed in accordance with the present methods but without paclitaxel are illustrated in FIG. 16. Results with paclitaxel, without liposomes, are illustrated in FIG. 17. Results of liposomes with paclitaxel are illustrated in FIG. 18. The data suggest that liposomes containing paclitaxel exhibit similar drug activity compared with that of paclitaxel without liposomes.

Detailed Description Text (159):

The xenografts were evaluated after treatment with LEP, cremophor-paclitaxel, empty liposomes (as a control) and cremophor (as a control). The results, tumor volume versus weeks of treatment, are graphically depicted in FIG. 20. Results from mice receiving liposomal-paclitaxel are plotted with an enclosed rectangle; results from mice receiving cremophor-paclitaxel are plotted with an enclosed triangle; results from mice receiving empty liposomes are plotted with closed circles; and results from mice receiving cremophor alone are plotted with open circles. After five doses of liposomal paclitaxel, cremophor-paclitaxel and empty liposomes, liposomal-paclitaxel exhibited a better antitumor effect than the cremophor-paclitaxel.

Generate Collection Print

L7: Entry 29 of 37

File: USPT

Nov 4, 1997

DOCUMENT-IDENTIFIER: US 5683715 A

TITLE: Taxane-containing phosphatidylcholine liposomes

Brief Summary Text (7):

This invention provides a liposome comprising a taxane and a bilayer comprising a lipid, wherein the lipid consists essentially of a phosphatidylcholine. Typically, the concentration of the taxane is at least about one mole percent, preferably from about 1 mole percent to about 4 mole percent. The taxane can be paclitaxel, taxotere, a baccatin or a cephalomannine, and is preferably paclitaxel. Preferably, the taxane is associated with the liposomal bilayer. The phosphatidylcholine (PC) is an unsaturated or partially unsaturated PC and includes, without limitation, dioleoyl phosphatidylcholine (DOPC), palmitoyloleoyl phosphatidylcholine (POPC), or egg phosphatidylcholine (EPC); preferably, the PC is EPC. Preferably, the liposome is unilamellar, more preferably a unilamellar liposome having an average diameter of from about 100 nm to about 200 nm. The liposome can be dehydrated.

Brief Summary Text (9):

Still further provided herein is a liposome composition comprising: (I) a dehydrated liposome which comprises a taxane and a bilayer comprising a lipid; and (ii) one or more protective sugars at the inside and outside surfaces of the bilayer, wherein the lipid consists essentially of a phosphatidylcholine.

Detailed Description Text (2):
This invention provides a liposome comprising a taxane and a bilayer comprising a lipid, wherein the lipid consists essentially of a phosphatidylcholine. Typically, the concentration of the taxane is at least about one mole percent, preferably from about 1 mole percent to about 4 mole percent. However, the concentration may be higher or lower as needed. The lower concentration limit is governed by the least amount of paclitaxel it is practical to make liposomes with given the intended use of the liposomal paclitaxel, and may be readily determined by ordinarily skilled artisans. The upper limit is governed by the paclitaxel crystallization concentration, i.e., the concentration at which it separates out from lipid bilayers and forms aggregates.

Detailed Description Text (5):

Phosphatidylcholines (PCs) are preferred herein for liposome formulation with taxanes. PCs having unsaturated acyl chains, that is fatty acids having one or mor double bonds between adjacent carbon atoms, or partially unsaturated acyl chains, that is, one unsaturated and one saturated, are preferred herein. These unmsaturated or partially unsaturated PCs include, withjout limitation, dioleoyl phosphatidylcholine (DOPC), palmitoyloleoyl phosphatidylcholine (POPC), or egg phosphatidylcholine (EPC).

Detailed Description Text (6):

Such lipids are the most effective at inhibiting taxane crystallization and concomittant precipitation from lipid bilayers, as demonstrated by the crystallization data presented below (see Example 1). Dispersion of paclitaxel and a lipid were formulated, with the paclitaxel and lipid concentrations (as well as the relative proportions of paclitaxel and lipid) given in Table 1 (see below). The ability of paclitaxel to form a stable dispersion with a lipid, described in the table as a "Yes", indicates that the lipid can be a suitable liposome-based carrier for the taxane, that is, liposomal taxane formulations will be stable in storage.

Stable liposomal taxane preparations are generally characterized by an absence of taxane aggregation and crystallization. Preferred lipids are those a unit weight of which a greater amount of a taxane can be associated with; that is, the paclitaxel/lipid ratios and mole percent paclitaxel in the dispersion are highest for the preferred lipids; consequently, the lipid/paclitaxel ratio is lower in the preferred lipids. The data presented in Table 1 claerly show that the paclitaxel/lipid ratio and mole percent paclitaxel in the dispersion are highest (43.99 micrograms/milligram and 3.76, respectively) for the most preferred PC, that is, EPC.

Detailed Description Text (10):

Liposomal dehydration generally requires use of a hydrophilic drying protectant (see U.S. Pat. No. 4,880,635, the contents of which are incorporated herein by reference). This hydrophilic compound is generally believed to prevent the rearrangement of the lipids in the liposome, so that the size and contents are maintained during the drying procedure and through rehydration, such that the liposomes can be reconstituted. Appropriate qualities for such drying protectants are that they be strong hydrogen bond formers, and possess stereochemical features that preserve the intramolecular spacing of the liposome bilayer components. Saccharide sugars, preferentially mono- and disaccharides, more preferably, disaccharides, are suitable drying protectants for liposomes. Alternatively, the drying protectant can be omitted if the liposome preparation is not frozen prior to dehydration, and sufficient water remains in the preparation subsequent to dehydration and if the liposome is multilamellar. Preferably, the protective sugar concentration in the liposome composition prior to dehydration is from about 100 mM to about 250 mM, or from about 5 moles of sugar per mole of phosphatidylcholine to about 12.5 moles of sugar per mole phosphatidylcholine. The protective sugar should be present at both inside and outside the liposome bilayers prior to dehydration. Without intending to be limited by theory, it is generally believed that protective sugars inside liposome bilayers prior to dehydration inhibit leakage of liposome contents, and that outisde sugars inhibit interliposomal aggregation and fusion. Further provided herein is a liposome composition comprising: (I) a dehydrated liposome which comprises a taxane and a bilayer comprising a lipid; and (ii) one or more protective sugars at the inside and outside surfaces of the bilayer, wherein the lipid consists essentially of a phosphatidylcholine

Detailed Description Text (14):

Still further provided is a method of administering a taxane to an animal, preferably a human, which comprises administering to the animal this pharmaceutical composition. This method can be used to administer liposomal taxanes to animals afflicted with cancers, e.g., brain, breast, colon, liver, lung, ovarian or prostate cancer; such therapeutic use requires administration of an amount of the pharmaceutical composition which comprises an amount of the liposome comprising an anticancer effective amount of the taxane. Preferably, the taxane administered is paclitaxel.

Detailed Description Text (24):

Formation of Egg Phosphatidylcholine Multilamellar Liposomes (MLVs) Containing Paclitaxel

<u>Detailed Description Text</u> (31):

Liposomes containing EPC, but no paclitaxel (placebo vesicles), were formed with 10 grams of EPC and 75 ml of methylene chloride according to the above-described procedure (see Example 3). The EPC and methylene chloride were mixed with an A-200 propeller (high shear). The mean diameter (see FIG. 1) of the liposomes formed, as determined by NICOMP, was 204.5 nm. Freeze-fracture electron microscopy showed liposomes with diameters of from about 65 nm to about 350 nm, in agreement with the NICOMP.

Detailed Description Text (32):

<u>Liposomes containing EPC and paclitaxel</u> were formed using 10 grams of EPC, 300 mg of paclitaxel and 75 ml of methylene chloride by the same procedure. The mean diameter of the liposomes formed, as determined by NICOMP, was 309.8 nm (see FIG. 2). Freeze-fracture electron microscopy showed that vesicles with diameters of from about 90 to about 1200 nm were formed. The EM studies also showed that the interlamellar spacings in these liposomes were large and irregular, which is indicative of a

repulsion between the layers. No paclitaxel crystallization was observed by light or EM microscopy or upon centrifugation in histopaque. Crystals 5 to 15 microns long were observed, by light microscopy, after the liposomes had been stored for about one week in the cold room (4 deg. C.) These were removed by centrifugation in histopaque, saving the supernatants and discarding the resulting pellets.

Detailed Description Text (35):

Multilamellar liposomes containing EPC and paclitaxel (MW 853.9) were prepared as described above (see Example 3). The MLVs were then extruded through 0.1 micron and 0.2 micron Nucleopore.TM. polycarbonate filters, Paclitaxel concentrations were determined by spectrophotometry using an extinction coefficient of .theta.=29,700 L/mol.cm.sup.-1 at 229 nm. Due to the overlap with the EPC peak, subtraction of this peak was performed by using an equivalent amount of EPC in the reference cell. Five percent of the paclitaxel contained within the EPC MLVs was lost after the multiple extrusions through the 0.2 micron filters. Nine percent was lost after extrusion through the 0.1 micron filters. No paclitaxel crystallization was observed in any of the unilamellar liposomes produced by the extrusion process.

Detailed Description Text (38):

Liposomes containing egg phosphatidylcholine (EPC) and paclitaxel were made, as described above, and then administered (intravenously, day 1) to groups of mice in the doses indicated below. The number of mice in each group surviving until the end of the observation period (15 days) was then determined.

CLAIMS:

- 1. A liposome consisting essentially of a lipid and paclitaxel, wherein the lipid is an unsaturated or a partially unsaturated phosphatidylcholine.
- 2. The <u>liposome of claim 1</u>, wherein the concentration of paclitaxel is at least about one mole percent.
- 3. The liposome of claim 2, wherein the concentration of paclitaxel is from about 1 mole percent to about 4 mole percent.
- 4. The liposome of claim 1, wherein paclitaxel is associated with the bilayer.
- 15. A liposome composition which comprises: (i) a dehydrated <u>liposome consisting</u> <u>essentially of paclitaxel</u> and a lipid; and (ii) one or more protective sugars at the inside and outside surfaces of the bilayer, wherein the lipid is an unsaturated or partially unsaturated phosphatidylcholine.

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Search Results - Record(s) 31 through 37 of 37 returned.

☐ 31. Document ID: US 5415869 A

L7: Entry 31 of 37

File: USPT

May 16, 1995

US-PAT-NO: 5415869

DOCUMENT-IDENTIFIER: US 5415869 A

TITLE: Taxol formulation

DATE-ISSUED: May 16, 1995

INVENTOR-INFORMATION:

NAME

CITY

STATE ZIP CODE

COUNTRY

Straubinger; Robert M.

Amherst

NY

Sharma; Amarnath

Buffalo

NY

Mayhew; Eric

South Wales

NY

US-CL-CURRENT: 424/450

Full Title Citation Front Review Classification Date Reference Sequences Attachments

Draws Desc Image

KWIC

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☐ 32. Document ID: US 20020102298 A1

L7: Entry 32 of 37

File: DWPI

Aug 1, 2002

DERWENT-ACC-NO: 2002-690593

DERWENT-WEEK: 200274

COPYRIGHT 2003 DERWENT INFORMATION LTD

TITLE: New temperature sensitive liposome contains active agent e.g. paclitaxel,

camptothecin, or doxorubicin, and gel-phase lipid bilayer membrane

INVENTOR: NEEDHAM, D

PRIORITY-DATA: 1999US-0458484 (December 9, 1999), 1998US-0099668 (June 18, 1998),

2002US-0083734 (February 26, 2002)

PATENT-FAMILY:

PUB-NO

PUB-DATE

LANGUAGE

PAGES

MAIN-IPC

US 20020102298 A1

August 1, 2002

024

A61K009/127

INT-CL (IPC): A61 K 9/127

Full Title Citation Front Review Classification Date Reference Sequences Attachments
Draw. Desc Image

KWIC

33. Document ID: EP 1259225 A2 WO 200156548 A2 AU 200128699 A

L7: Entry 33 of 37

File: DWPI

Nov 27, 2002

DERWENT-ACC-NO: 2001-596577

DERWENT-WEEK: 200302

COPYRIGHT 2003 DERWENT INFORMATION LTD

TITLE: Forming liposomes useful in encapsulating drugs for e.g. paclitaxel comprises

dehydrating aqueous suspension containing empty liposomes, lipophilic active

ingredient and dissolved sugar

INVENTOR: ZADI, B

PRIORITY-DATA: 2000EP-0300904 (February 4, 2000)

PATENT-FAMILY:

PUB-NO	PUB-DATE :	LANGUAGE	PAGES	MAIN-IPC
EP 1259225 A2	November 27, 2002	E	000	A61K009/127
WO 200156548 A2	August 9, 2001	E	029	A61K009/127
AU 200128699 A	August 14, 2001		000	A61K009/127

INT-CL (IPC): A61 K 9/127

Full Title Citation Front Review Classification Date Reference Sequences Attachments

Draw, Desc Image

KWIC

34. Document ID: JP 2003514768 W WO 200117508 A1 AU 200071229 A EP 1210065 A1 BR 200013866 A US 20020168355 A1 CN 1378443 A ZA 200201555 A CZ 200200850 A3

L7: Entry 34 of 37

File: DWPI

Apr 22, 2003

DERWENT-ACC-NO: 2001-265928

DERWENT-WEEK: 200336

COPYRIGHT 2003 DERWENT INFORMATION LTD

TITLE: Selectively affecting angiogenic endothelial cells, useful e.g. for treating cancer, chronic inflammatory diseases and for wound healing, comprises administering composition containing cationic lipids and substance that effects angiogenesis

INVENTOR: MCDONALD, D M; MCLEAN, J W ; THURSTON, O G

PRIORITY-DATA: 1999US-0392976 (September 9, 1999), 1997US-0820337 (March 12, 1997), 1998US-0127177 (July 31, 1998), 2002US-0161194 (May 28, 2002)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 2003514768 W	April 22, 2003		082	A61K009/127
WO 200117508 A1	March 15, 2001	. E	040	A61K009/127
AU 200071229 A	April 10, 2001		000	A61K009/127
EP 1210065 A1	June 5, 2002	E	000	A61K009/127
BR 200013866 A	May 14, 2002		000	A61K009/127
US 20020168355 A1	November 14, 2002		000	A61K038/48
CN 1378443 A	November 6, 2002		000	A61K009/127
ZA 200201555 A	April 30, 2003		066	A61K000/00
CZ 200200850 A3	April 16, 2003		000	A61K009/127

INT-CL (IPC): A61 \underline{K} 0/00; A61 \underline{K} 9/127; A61 \underline{K} 31/337; A61 \underline{K} 38/48; A61 \underline{K} 47/24; A61 \underline{P}

 $\frac{7}{00}$; $\frac{A61}{P}$ $\frac{P}{9}$ $\frac{9}{10}$; $\frac{A61}{P}$ $\frac{P}{17}$ $\frac{17}{02}$; $\frac{A61}{P}$ $\frac{P}{29}$ $\frac{29}{00}$; $\frac{A61}{P}$ $\frac{P}{35}$ $\frac{39}{00}$; $\frac{A61}{P}$ $\frac{P}{39}$ $\frac{39}{00}$; $\frac{G01}{N}$ $\frac{N}{33}$

35. Document ID: WO 9834597 A1 US 5827533 A AU 9863196 A US 5882679 A

L7: Entry 35 of 37

File: DWPI

Aug 13, 1998

DERWENT-ACC-NO: 1998-446921

DERWENT-WEEK: 200209

COPYRIGHT 2003 DERWENT INFORMATION LTD

TITLE: New liposome containing active agent - which is a pharmacologically active

agent, diagnostic agent or nutritional agent

INVENTOR: NEEDHAM, D; SARPAL, R S

PRIORITY-DATA: 1997US-0795100 (February 6, 1997), 1998US-0129654 (August 5, 1998)

PATENT-FAMILY:

PUB-NO PUB-DATE LANGUAGE **PAGES** MAIN-IPC WO 9834597 A1 139 A61K009/127 August 13, 1998 Ε US 5827533 A 000 A61K009/133 October 27, 1998 August 26, 1998 000 A61K009/127 AU 9863196 A 000 A61K009/127 US 5882679 A March 16, 1999

INT-CL (IPC): A61 K 9/127; A61 K 9/133; A61 K 31/335

Full Title Citation Front Review Classification Date Reference Sequences Attachments

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☐ 36. Document ID: US 5683715 A

L7: Entry 36 of 37

File: DWPI

Nov 4, 1997

DERWENT-ACC-NO: 1997-548932

DERWENT-WEEK: 199750

COPYRIGHT 2003 DERWENT INFORMATION LTD

TITLE: Storage-stable liposomes containing paclitaxel - having optionally unsaturated

phosphatidyl choline as lipid, used for treating cancer

INVENTOR: BONI, L; PORTNOFF, J

PRIORITY-DATA: 1995US-0482359 (June 7, 1995), 1993US-0063131 (May 17, 1993)

PATENT-FAMILY:

PUB-NO PUB-DATE LANGUAGE PAGES MAIN-IPC

US 5683715 A November 4, 1997 011 A61K009/127

INT-CL (IPC): $A61 \times 9/127$

Full Title Citation Front Review Classification Date Reference Sequences Attachments

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37. Document ID: US 5415869 A DE 69425879 E WO 9513053 A1 AU 9511769 A EP 683664 A1 EP 683664 A4 JP 08508046 W EP 683664 B1

L7: Entry 37 of 37

File: DWPI

May 16, 1995

DERWENT-ACC-NO: 1995-193393

DERWENT-WEEK: 200060

COPYRIGHT 2003 DERWENT INFORMATION LTD

TITLE: <u>Liposome compsn. contg. taxane</u>, used for treating cancer - contg. negatively charged and zwitterionic phospholipid cpds., preventing crystallisation of taxane and agglomeration.

aggromeración.

INVENTOR: MAYHEW, E; SHARMA, A; STRAUBINGER, R M

PRIORITY-DATA: 1993US-0151215 (November 12, 1993)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 5415869 A	May 16, 1995		038	A61K009/127
DE 69425879 E	October 19, 2000		000	A61K009/127
WO 9513053 A1	May 18, 1995	E	055	A61K009/127
AU 9511769 A	May 29, 1995		000	A61K009/127
EP 683664 A1	November 29, 1995	E	000	A61K009/127
EP 683664 A4	January 31, 1996		000	A61K009/127
JP 08508046 W	August 27, 1996		052	A61K031/335
EP 683664 B1	September 13, 2000	E	000	A61K009/127

INT-CL (IPC): A61 \underline{K} 9/127; A61 \underline{K} 9/133; A61 \underline{K} 31/335; A61 \underline{K} 47/24

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Search Results - Record(s) 1 through 30 of 37 returned.

☐ 1. Document ID: US 6515017 B1

L7: Entry 1 of 37

File: USPT

Feb 4, 2003

US-PAT-NO: 6515017

DOCUMENT-IDENTIFIER: US 6515017 B1

TITLE: Water soluble paclitaxel derivatives

DATE-ISSUED: February 4, 2003

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Li; Chun Missouri City TX
Wallace; Sidney Houston TX
Yu; Dong-Fang Houston TX
Yang; David Sugar Land TX

US-CL-CURRENT: 514/449; 600/1

Full Title Citation Front Review Classification Date Reference Sequences Attachments

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☐ 2. Document ID: US 6500461 B2

L7: Entry 2 of 37

File: USPT

Dec 31, 2002

US-PAT-NO: 6500461

DOCUMENT-IDENTIFIER: US 6500461 B2

TITLE: Particulate formulations

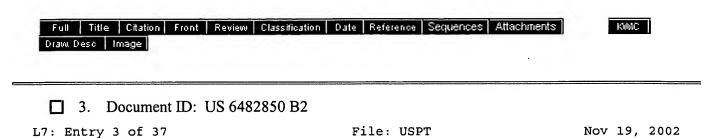
DATE-ISSUED: December 31, 2002

INVENTOR-INFORMATION:

NAME ZIP CODE COUNTRY CITY STATE Perkins; Walter Trenton NJ Li; Xingong Levittown PA Hirsh; Donald Trenton NJ Mayhew; Eric Monmouth Junction NJ Ahmad; Imran Cranbury NJ Ali; Shaukat Monmouth Junction NJ Janoff; Andrew Yardley PA

US-CL-CURRENT: 424/489; 264/4.1, 264/4.3, 264/4.6, 424/427, 424/434, 424/435,

424/436, 424/490



US-PAT-NO: 6482850

DOCUMENT-IDENTIFIER: US 6482850 B2

TITLE: Hydrolysis-promoting hydrophobic taxane derivatives

DATE-ISSUED: November 19, 2002

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY Monmouth Junction Ali; Shaukat NJ Skillman NJ Franklin; J. Craig Ahmad; Imran Cranbury NJ Mayhew; Eric Monmouth Junction ŊĴ Plainsboro NJ Bhattacharya; Soumendu Koehane; Gil Piscataway NJ Janoff; Andrew S. Yardley PA

US-CL-CURRENT: 514/449; 549/510, 549/511



☐ 4. Document ID: US 6461637 B1

L7: Entry 4 of 37

File: USPT

Oct 8, 2002

US-PAT-NO: 6461637

DOCUMENT-IDENTIFIER: US 6461637 B1

TITLE: Method of administering liposomal encapsulated taxane

DATE-ISSUED: October 8, 2002

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Rahman; Aquilur Long Grove IL

US-CL-CURRENT: 424/450; 514/449, 514/510



☐ 5. Document ID: US 6441025 B2

L7: Entry 5 of 37

File: USPT

Aug 27, 2002

US-PAT-NO: 6441025

DOCUMENT-IDENTIFIER: US 6441025 B2

TITLE: Water soluble paclitaxel derivatives

DATE-ISSUED: August 27, 2002

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Li; Chun Missouri City TX
Wallace; Sidney Houston TX
Yu; Dong-Fang Houston TX
Yang; David J. Sugar Land TX

US-CL-CURRENT: 514/449

Full Title Citation Front Review Classification Date Reference Sequences Attachments

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☐ 6. Document ID: US 6440393 B1

L7: Entry 6 of 37

File: USPT

Aug 27, 2002

US-PAT-NO: 6440393

DOCUMENT-IDENTIFIER: US 6440393 B1

TITLE: Carbon dioxide enhancement of inhalation therapy

DATE-ISSUED: August 27, 2002

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Waldrep; J. Clifford The Woodlands TX
Knight; J. Vernon Houston TX
Koshkina; Nadezhda Houston TX

US-CL-CURRENT: 424/45; 424/1.13, 424/1.21, 424/450, 424/458

7. Document ID: US 6426086 B1

L7: Entry 7 of 37 File: USPT Jul 30, 2002

US-PAT-NO: 6426086

DOCUMENT-IDENTIFIER: US 6426086 B1

TITLE: pH-sensitive, serum-stable liposomes

DATE-ISSUED: July 30, 2002

INVENTOR - INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Papahadjopoulos; Demetrios late of San Francisco CA

Meyer; Olivier Strasbourg FR
Leroux; Jean-Christophe Montreal CA

US-CL-CURRENT: 424/450; 424/1.21, 424/9.321, 424/9.51, 424/94.3, 428/402.2

Full Title Citation Front Review Classification Date Reference Sequences Attachments

Draw, Desc Image

☐ 8. Document ID: US 6395712 B1

L7: Entry 8 of 37

File: USPT

May 28, 2002

US-PAT-NO: 6395712

DOCUMENT-IDENTIFIER: US 6395712 B1

TITLE: Sensitization of HER-2/neu overexpressing cancer cells to chemotherapy

DATE-ISSUED: May 28, 2002

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Hung; Mien-Chie Houston TX Ueno; Naoto T. Houston TX

US-CL-CURRENT: 514/44; 424/649, 514/449

Full Title Citation Front Review Classification Date Reference Sequences Attachments KMC Draw, Desc Image

9. Document ID: US 6392063 B1

L7: Entry 9 of 37 File: USPT May 21, 2002

US-PAT-NO: 6392063

DOCUMENT-IDENTIFIER: US 6392063 B1

TITLE: Hydrolysis-promoting hydrophobic taxane derivatives

DATE-ISSUED: May 21, 2002

INVENTOR-INFORMATION:

STATE ZIP CODE COUNTRY NAME CITY Monmouth Junction NJ Ali; Shaukat Skillman NJ Franklin; J. Craig Ahmad; Imran NJ Cranbury Mayhew; Eric Monmouth Junction NJ Bhattacharya; Soumendu Plainsboro NJ Koehane; Gil Piscataway NJ Janoff; Andrew S. Yardley PA

US-CL-CURRENT: 549/510; 549/511



☐ 10. Document ID: US 6348215 B1

L7: Entry 10 of 37

File: USPT

Feb 19, 2002

US-PAT-NO: 6348215

DOCUMENT-IDENTIFIER: US 6348215 B1

TITLE: Stabilization of taxane-containing dispersed systems

DATE-ISSUED: February 19, 2002

INVENTOR-INFORMATION:

NAME

CITY

STATE ZIP CODE

COUNTRY

Straubinger; Robert M.

Balasubramanian; Sathyamangalam V.

Amherst NY

Buffalo NY

US-CL-CURRENT: 424/450; 549/510, 549/511



☐ 11. Document ID: US 6296870 B1

L7: Entry 11 of 37

File: USPT

Oct 2, 2001

US-PAT-NO: 6296870

DOCUMENT-IDENTIFIER: US 6296870 B1

TITLE: Liposomes containing active agents

DATE-ISSUED: October 2, 2001

INVENTOR - INFORMATION:

NAME

CITY

ZIP CODE

COUNTRY

Needham; David

Durham

STATE NC

Sarpal; Ranjit S.

Durham

NC

US-CL-CURRENT: 424/450; 424/1.21, 424/9.321, 424/9.51, 424/9.51



☐ 12. Document ID: US 6291690 B1

L7: Entry 12 of 37

File: USPT

Sep 18, 2001

US-PAT-NO: 6291690

DOCUMENT-IDENTIFIER: US 6291690 B1

TITLE: Hydrophobic taxane derivatives

DATE-ISSUED: September 18, 2001

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Mayhew; Eric Monmouth Junction NJ Franklin; J. Craig Princeton NJ

Bhatia; Suresh New Delhi IN

Harmon; Paul A. Newtown PA Janoff; Andrew S. Yardley PA

US-CL-CURRENT: <u>549/510</u>; <u>549/511</u>

Full Title Citation Front Review Classification Date Reference Sequences Attachments

Draw, Desc Image

☐ 13. Document ID: US 6284267 B1

L7: Entry 13 of 37 File: USPT Sep 4, 2001

US-PAT-NO: 6284267

DOCUMENT-IDENTIFIER: US 6284267 B1

** See image for Certificate of Correction **

TITLE: Amphiphilic materials and liposome formulations thereof

DATE-ISSUED: September 4, 2001

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Aneja; Rajindra Ithaca NY

US-CL-CURRENT: $\frac{424}{450}$; $\frac{424}{1.21}$, $\frac{424}{417}$, $\frac{424}{9.321}$, $\frac{424}{9.51}$, $\frac{424}{94.3}$, $\frac{428}{402.2}$, $\frac{436}{829}$, $\frac{554}{103}$, $\frac{554}{227}$, $\frac{554}{79}$, $\frac{554}{80}$

Full Title Citation Front Review Classification Date Reference Sequences Attachments KMC Draw Description

☐ 14. Document ID: US 6262107 B1

L7: Entry 14 of 37 File: USPT Jul 17, 2001

US-PAT-NO: 6262107

DOCUMENT-IDENTIFIER: US 6262107 B1

TITLE: Water soluble paclitaxel prodrugs

DATE-ISSUED: July 17, 2001

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Li; Chun Missouri City TX
Wallace; Sidney Houston TX
Yu; Dong-Fang Houston TX
Yang; David J. Sugar Land TX

US-CL-CURRENT: 514/449; 424/1.65, 424/9.36, 549/510, 549/511

Full Title Citation Front Review Classification Date Reference Sequences Attachments

Draw, Desc Image

☐ 15. Document ID: US 6214388 B1

L7: Entry 15 of 37

File: USPT

Apr 10, 2001

US-PAT-NO: 6214388

DOCUMENT-IDENTIFIER: US 6214388 B1

TITLE: Immunoliposomes that optimize internalization into target cells

DATE-ISSUED: April 10, 2001

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Benz; Christopher C. Novato CA
Papahadjopoulos; Demetrios P. San Francisco CA
Park; John W. San Francisco CA
Hong; Keelung San Francisco CA
Kirpotin; Dmitri San Francisco CA

US-CL-CURRENT: 424/143.1; 424/450, 514/34, 514/44, 530/387.1, 530/387.3, 530/388.22

Full Title Citation Front Review Classification Date Reference Sequences Attachments

Draw Desc Image

☐ 16. Document ID: US 6200598 B1

L7: Entry 16 of 37

File: USPT

Mar 13, 2001

US-PAT-NO: 6200598

DOCUMENT-IDENTIFIER: US 6200598 B1

** See image for Certificate of Correction **

TITLE: Temperature-sensitive liposomal formulation

DATE-ISSUED: March 13, 2001

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Needham; David Durham NC

US-CL-CURRENT: <u>424/450</u>; <u>424/1.21</u>, <u>424/9.321</u>, <u>424/9.51</u>, <u>424/94.3</u>

Full Title Citation Front Review Classification Date Reference Sequences Attachments

Draw Desc Image

☐ 17. Document ID: US 6146659 A

L7: Entry 17 of 37

File: USPT

Nov 14, 2000

US-PAT-NO: 6146659

DOCUMENT-IDENTIFIER: US 6146659 A

TITLE: Method of administering liposomal encapsulated taxane

DATE-ISSUED: November 14, 2000

INVENTOR-INFORMATION:

NAME

CITY

STATE

ZIP CODE

COUNTRY

Rahman; Aquilur

Long Grove

IL

US-CL-CURRENT: 424/450; 514/449, 514/510

Full Title Citation Front Review Classification Date Reference Sequences Attachments

Draw Desc Image

☐ 18. Document ID: US 6143321 A

L7: Entry 18 of 37

File: USPT

Nov 7, 2000

US-PAT-NO: 6143321

DOCUMENT-IDENTIFIER: US 6143321 A

TITLE: Liposomes containing active agents

DATE-ISSUED: November 7, 2000

INVENTOR-INFORMATION:

NAME

CITY

STATE

NC

COUNTRY

Needham; David

Durham

ZIP CODE

Sarpal; Ranjit S.

Durham NC

US-CL-CURRENT: 424/450; 424/1.21, 424/9.321, 424/9.51, 424/94.3

Full Title Citation Front Review Classification Date Reference Sequences Attachments KMC Draw, Description

☐ 19. Document ID: US 6118011 A

L7: Entry 19 of 37

File: USPT

Sep 12, 2000

US-PAT-NO: 6118011

DOCUMENT-IDENTIFIER: US 6118011 A

TITLE: Preparation of liposomal taxanes

DATE-ISSUED: September 12, 2000

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Mayhew; Eric Monmouth Junction NJ Franklin; J. Craig Princeton NJ

Bhatia; Suresh New Delhi IN

Harmon; Paul A. Newtown PA
Janoff; Andrew S. Yardley PA

US-CL-CURRENT: 549/510; 549/511

Full Title Citation Front Review Classification Date Reference Sequences Attachments KMC

Draw, Description

☐ 20. Document ID: US 6107332 A

L7: Entry 20 of 37 File: USPT Aug 22, 2000

US-PAT-NO: 6107332

DOCUMENT-IDENTIFIER: US 6107332 A

** See image for Certificate of Correction **

TITLE: Hydrolysis-promoting hydrophobic taxane derivatives

DATE-ISSUED: August 22, 2000

INVENTOR-INFORMATION:

ZIP CODE COUNTRY CITY STATE NAME Monmouth Junction NJ Ali; Shaukat NJ Franklin; J. Craig Skillman NJ Ahmad; Imran Cranbury Monmouth Junction NJ Mayhew; Eric Plainsboro NJ Bhattacharya; Soumendu Piscataway NJ Koehane; Gil Janoff; Andrew S. Yardley PA

US-CL-CURRENT: 514/449; 510/510, 510/511

Full Title Citation Front Review Classification Date Reference Sequences Attachments KMC Draw Desc Image

☐ 21. Document ID: US 6051600 A

L7: Entry 21 of 37 File: USPT Apr 18, 2000

US-PAT-NO: 6051600

DOCUMENT-IDENTIFIER: US 6051600 A

** See image for Certificate of Correction **

TITLE: Liposomal hydrolysis-promoting hydrophobic taxane derivatives

DATE-ISSUED: April 18, 2000

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Mayhew; Eric Monmouth Junction NJ 08852
Ali; Shaukat Monmouth Junction NJ 08852
Janoff; Andrew S. Yardley PA 19067

US-CL-CURRENT: 514/449; 549/510, 549/511

Full Title Citation Front Review Classification Date Reference Sequences Attachments KMC Draw Desc Image

☐ 22. Document ID: US 5977163 A

L7: Entry 22 of 37

File: USPT

Nov 2, 1999

US-PAT-NO: 5977163

DOCUMENT-IDENTIFIER: US 5977163 A

** See image for Certificate of Correction **

TITLE: Water soluble paclitaxel prodrugs

DATE-ISSUED: November 2, 1999

INVENTOR - INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Li; Chun Missouri City TX
Wallace; Sidney Houston TX
Yu; Dong-Fang Houston TX
Yang; David J. Sugar Land TX

US-CL-CURRENT: 514/449; 424/1.65, 424/9.36, 549/510, 549/511

Full Title Citation Front Review Classification Date Reference Sequences Attachments

Draw, Desc Image

☐ 23. Document ID: US 5939567 A

L7: Entry 23 of 37

File: USPT

Aug 17, 1999

US-PAT-NO: 5939567

DOCUMENT-IDENTIFIER: US 5939567 A

TITLE: Synthesis of hydrophobic taxane derivatives

DATE-ISSUED: August 17, 1999

INVENTOR-INFORMATION:

IN

NAME CITY STATE ZIP CODE COUNTRY

Mayhew; Eric Monmouth Junction NJ Franklin; J. Craiq Princeton NJ

Franklin; J. Craig Princeton NJ
Bhatia; Suresh New Delhi

Harmon; Paul A. Newtown PA
Janoff; Andrew S. Yardley PA

US-CL-CURRENT: <u>549/510</u>; <u>549/511</u>



☐ 24. Document ID: US 5882679 A

L7: Entry 24 of 37 File: USPT Mar 16, 1999

US-PAT-NO: 5882679

DOCUMENT-IDENTIFIER: US 5882679 A

TITLE: Liposomes containing active agents aggregated with lipid surfactants

DATE-ISSUED: March 16, 1999

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Needham; David Durham NC

US-CL-CURRENT: 424/450



☐ 25. Document ID: US 5827533 A

L7: Entry 25 of 37 File: USPT Oct 27, 1998

US-PAT-NO: 5827533

DOCUMENT-IDENTIFIER: US 5827533 A

** See image for Certificate of Correction **

TITLE: Liposomes containing active agents aggregated with lipid surfactants

DATE-ISSUED: October 27, 1998

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Needham; David Durham NC

US-CL-CURRENT: 424/450; 424/1.21, 424/9.32, 424/9.51

Full Title Citation Front Review Classification Date Reference Sequences Attachments

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☐ 26. Document ID: US 5776486 A

L7: Entry 26 of 37

File: USPT

Jul 7, 1998

US-PAT-NO: 5776486

DOCUMENT-IDENTIFIER: US 5776486 A

TITLE: Methods and apparatus for making liposomes containing hydrophobic drugs

DATE-ISSUED: July 7, 1998

INVENTOR-INFORMATION:

NAME

CITY

STATE

ZIP CODE

COUNTRY

Castor; Trevor P.

Arlington

MA

Chu; Ling

Chelmsford

Full Title Citation Front Review Classification Date Reference Sequences Attachments

MA

US-CL-CURRENT: 424/450; 264/4.1, 264/4.3, 264/4.6

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KWC

☐ 27. Document ID: US 5756537 A

L7: Entry 27 of 37

File: USPT

May 26, 1998

US-PAT-NO: 5756537

DOCUMENT-IDENTIFIER: US 5756537 A

TITLE: Regime for paclitaxel in Kaposi's sarcoma patients

DATE-ISSUED: May 26, 1998

INVENTOR-INFORMATION:

NAME

CITY

STATE

COUNTRY

Gill; Parkash S.

Agoura Hills

CA

US-CL-CURRENT: 514/449; 514/359, 514/383, 514/450, 514/451, 514/452, 514/8

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Full Title Citation Front Review Classification Date Reference Sequences Attachments

ZIP CODE

KWIC

☐ 28. Document ID: US 5703117 A

L7: Entry 28 of 37

File: USPT

Dec 30, 1997

US-PAT-NO: 5703117

DOCUMENT-IDENTIFIER: US 5703117 A

** See image for Certificate of Correction **

TITLE: Hydrolysis-promoting hydrophobic taxane derivatives

DATE-ISSUED: December 30, 1997

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Mayhew; Eric Monmouth Junction NJ
Ali; Shaukat Monmouth Junction NJ
Janoff; Andrew S. Yardley PA

US-CL-CURRENT: 514/449; 549/510, 549/511

Full Title Citation Front Review Classification Date Reference Sequences Attachments

Draw Desc Image

☐ 29. Document ID: US 5683715 A

L7: Entry 29 of 37 File: USPT Nov 4, 1997

US-PAT-NO: 5683715

DOCUMENT-IDENTIFIER: US 5683715 A

TITLE: Taxane-containing phosphatidylcholine liposomes

DATE-ISSUED: November 4, 1997

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Boni; Lawrence Monmouth Junction NJ
Portnoff; Joel Langhorne PA

US-CL-CURRENT: 424/450

Full Title Citation Front Review Classification Date Reference Sequences Attachments

NMC

Draw Desc Image

30. Document ID: US 5580899 A

L7: Entry 30 of 37 File: USPT Dec 3, 1996

US-PAT-NO: 5580899

DOCUMENT-IDENTIFIER: US 5580899 A

TITLE: Hydrophobic taxane derivatives

DATE-ISSUED: December 3, 1996

INVENTOR-INFORMATION:

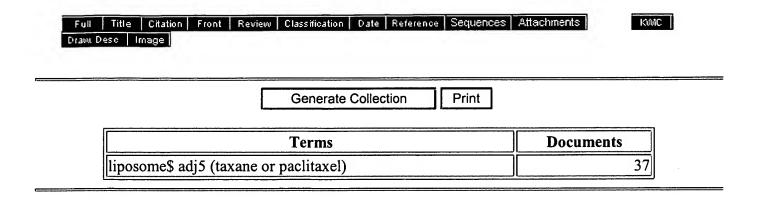
NAME CITY STATE ZIP CODE COUNTRY

Mayhew; Eric Monmouth Junction NJ Franklin; J. Craig Princeton NJ

Bhatia; Suresh Alaknanda IN

Harmon; Paul A. Newtown PA Janoff; Andrew S. Yardley PA

US-CL-CURRENT: 514/449; 549/510, 549/511



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